

REMARKS/ARGUMENTS

Responsive to the Office Action of November 6, 2006, the Examiner's comments and the applied art have been noted and studied. In response, Applicants have amended the existing claims in a manner that, it is submitted, makes the present claims allowable. Certain dependent claims have also been amended. It is respectfully submitted the revision made and discussed herein in response to the Examiner's comments place the application in a condition of allowance. In any event, it is respectfully submitted that entry of the present Amendment will materially simplify issues in the case, should Appeal become necessary.

Prior Art

The rejections of Independent Claims 1, 15, and 28 under 35 U.S.C. §§ 102 and 103 based on U.S. Patent Nos. 5,179,490 ("Lawrence"), U.S. Patent No. 5,475,343 ("Kwak") is noted. It is submitted, however, that neither reference alone, nor in combination, shows, teaches, or renders obvious the subject matter of the claims presented herein. Further, it would defeat the stated purpose of the Lawrence circuit to modify it as the Final Rejection proposes. Thus, the present invention is not obvious in view of Lawrence and Kwak. It is respectfully requested that the rejection be withdrawn and Claims 1, 4, 5, and 9-14 be allowed.

The Lawrence Reference

Applicants would again stress the apparatus of the present invention is significantly different from that of Lawrence. The present invention is directed to a different type of circuit and a different problem. The present invention is directed to a transient voltage surge suppressor ("TVSS") apparatus which also reduces and/or eliminates ground noise fed from a power utility outlet to microprocessor-based equipment and the like. However, in contrast, Lawrence is

addressed toward the prevention of radio frequency interference ("RFI") being introduced back into the power utility lines when RFI is detected from the load. The Lawrence circuit is a controller which interrupts the operation of a load (i.e., high voltage AC equipment-see Col. 1, Lns. 12-17) once the controller detects RFI fed from the load.

Lawrence does not utilize an LC filter circuit; rather, it uses an RF choke. This choke is designed to reduce RFI generated by an arc over at the load and prevents the RFI from being fed back into the power utility network. (Col. 4, Ln. 43-53). When RF is fed backwards from the load, Lawrence's circuitry 100 (Fig. 2) causes the thyristor 60 to stop conducting, thereby interrupting all power to the load. Disabling the load is undesirable in Applicants' system because sensitive microprocessor-based electronics, such as computers, can comprise volatile D-RAM memories, which lose data when the power supply is interrupted. Thus, Lawrence could not possibly read upon the independent claims because it fails to disclose the LC circuit.

In other words, the present invention protects a load by suppressing noise fed to a load from a power utility outlet, while Lawrence protects a power network from voltage transients fed from the load. Therefore, Lawrence is directed toward an altogether different apparatus than that of the present invention.

The electrical phenomenon of noise (reduction of which is the subject of the present invention) is a brief voltage differential that can appear between the ground and hot or neutral lines. The amount of noise present on a power circuit can be different at any given time. The source of this noise can originate at the electrical distribution system external to the building, from a distribution panel inside the building, or other loads on the network. The noise is the result of the power circuit's dynamic nature due to ever changing load requirements.

One cause of noise can be the difference between the potentials of two remote grounds. This is often the case when dealing with microprocessor-based equipment, such as networked computer equipment, for example. Typical effects of this can be sporadic reboots of the computer, freezing, and bad data transfer in the computer. Network interface cards, serial ports, modems, and other computer components can easily fall victim to the effects of this phenomena.

It is submitted that the applied references (particularly Lawrence) which, alone or in combination, fail make obvious Applicants' invention for two primary reasons: (1) The Rejection takes a position contrary to the stated purpose of the primary reference, Lawrence; and (2) Lawrence and the present invention do not address the same problem.

The Rejection is Contrary to the Stated Purpose of the Lawrence Reference

As explained above, the stated purpose of the Lawrence reference is to detect radio frequency (RF) interference originating LOAD 40 (Fig. 2) and to prevent the LOAD from continuing to generate such interference. See Col. 5, lines 8-17 and Col. 5, lines 25-32 of Lawrence. The present invention by contrast, is to prevent abnormal conditions arising in an external power network from reaching the sensitive electronic devices being protected.

Lawrence and the present invention are thus for different purposes. It would be contrary to the express language of Lawrence to redesign Lawrence with the other reference relied upon, Kwak (or any other similar reference) to achieve a circuit which protects a LOAD 40 from ground noise into a LOAD 40 from an external outlet. As noted, Lawrence is directed to prevention of RF interference which originates in the LOAD 40.

Lawrence And The Present Invention Do Not Address The Same Problem

Lawrence and the present invention are thus directed to two entirely different problems. The present invention addresses ground noise, while Lawrence does not. Throughout the Specification, Applicants discuss how their system is structured to reduce and/or eliminate ground noise fed from the power utility outlet. (Par. [0025, 0030, & 0031]). These features are also reflected in sole remaining independent Claim 1. In direct contrast, Lawrence discloses a system which detects RFI fed backwards into the power network from the load. (Abstract; Col. 5, Ln. 8-16).

RFI is a form of conducted electromagnetic interference and is to be distinguished from ground noise. RFI can be introduced into the power network by the load itself and can cause numerous problems, such as system failures. The phenomenon is exactly why Lawrence protects the power utility system from RFI fed back into the power utility outlet from the load.

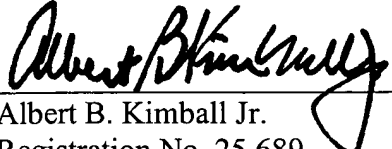
However, again, the present invention is directed to protecting the load from ground noise effects fed from the utility outlet, not RFI fed from the load. This feature is clearly recited in Claim 1. Accordingly, the rejection based on Lawrence as the primary reference should be withdrawn. Applicants respectfully request allowance of the present claims, namely 1, 4, 5, and 9-14.

Conclusion

In summary, for reasons detailed above, it is submitted the claims now present in the application are allowable. Accordingly, allowance of all claims is submitted to be in order, and such action is respectfully requested. Applicants request early notice if there are any outstanding issues that have not been addressed in this response. The Commissioner is authorized to charge any additional fees incurred in this application to Deposit Account No. 50-0259. Should the

Examiner have any inquiries concerning this matter, please direct telephone calls to the undersigned at (713) 221-1377.

Respectfully submitted,



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